

## 780 CMR 3614

### HEATING AND COOLING EQUIPMENT

*(This Section is Entirely Unique to Massachusetts)*

#### 3614.1 GENERAL

**3614.1.1 General:** All heating and cooling appliances that are fossil-fuel fired shall conform to the requirements of 780 CMR 3614.0.

**Note 1:** Solid fuel burning appliances shall conform to the requirements of 780 CMR 3610.

**Note 2:** Boilers and water heaters shall additionally comply with the requirements of 248 CMR and 527 CMR, as applicable.

**3614.1.2 Installation:** Heating and cooling equipment installation shall be in accordance with the specific requirements of 527 CMR for oil fired equipment and 248 CMR for gas-fired equipment or otherwise in accordance with the general requirements of 780 CMR 36 when such equipment is not under the jurisdictional control of 527 CMR or 248 CMR.

**Note 1:** When explicit requirements of 527 CMR and/or 248 CMR apply, enforcement of such explicit requirements lies with the Head of the Fire Department of the jurisdiction (or his designee) for matters controlled under 527 CMR and with the Gas Inspector of the jurisdiction for matters controlled under 248 CMR.

**Note 2:** 248 CMR explicitly regulates the size, type, listing and installation criteria for gas-fired appliances, associated connector, equipment venting, including chimney flue size and liner criteria and combustion air and appliance venting criteria.

**Note 3:** 527 CMR explicitly regulates the size, type, listing and installation criteria for oil-fired appliances, associated connector piping, combustion air and appliance ventilation criteria

and certain aspects of equipment venting criteria but otherwise defaults to 780 CMR for chimney flue size and liner criteria.

**Note 4:** Where flue liner size and/or material is otherwise not controlled by 527 CMR or 248 CMR, flue size and material type shall conform to the requirements of 780 CMR and the appliance manufacturer's listing/installation requirements.

**3614.1.3 Ventilation requirements:** See 780 CMR 3617.1

**3614.1.4 Exhaust system requirements:** See 780 CMR 3618.1.

**3614.1.5 Duct construction requirements:** See 780 CMR 3619.1.

**3614.1.6 Combustion air requirements:** See 780 CMR 3620.1.

**3614.1.7 Chimney and vent requirements:** See 780 CMR 3621.1 and 780 CMR 3610, generally.

**3614.1.8 Access:** Heating and cooling equipment shall be located relative to building construction and other equipment in such manner as to permit maintenance, servicing and replacement. Refer to the specific requirements of 527 CMR or 248 CMR as applicable; otherwise such equipment access shall comply to applicable requirements of 780 CMR 36 and the manufacturer's specific listing/installation requirements.

**3614.1.9 Sizing:** Comfort heating and cooling equipment shall be sized according 780 CMR 3603.21.

**3614.1.10 Heating and cooling equipment room installations:** Refer to the specific requirements of 527 CMR or 248 CMR as applicable or otherwise

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such installations shall comply to applicable requirements of 780 CMR 36 and the manufacturer's specific listing/installation requirements.

**3614.1.10.1 Additional installation requirements/attic installations:** Refer to the specific requirements of 527 CMR or 248 CMR as applicable; otherwise such installations shall comply to applicable requirements of 780 CMR 36 and the manufacturer's specific listing/ installation requirements.

**Note** that attic installation of heating equipment and associated duct/piping requires care that heating system heat loss to the attic space does **3614.1.10.1.1 Electricity required:** For attic installations, a permanent electric outlet and lighting fixture shall be provided near the equipment which shall be controlled by a switch and installed in accordance with 527 CMR 12.00.

**3614.1.10.2 Additional installation requirements/crawl space installations:** Refer to 527 CMR or 248 CMR as applicable or in the absence of such jurisdictional guidance, equipment supported from the ground shall be level and firmly supported on frost-protected construction extending not less than three inches (76 mm) above the adjoining ground. Equipment suspended from the floor shall have a clearance of not less than six inches (153 mm) from the ground.

**3614.1.10.2.1 Electricity required:** A permanent electric outlet and lighting fixture shall be provided near the equipment controlled by a switch and installed in accordance with 527 CMR 12.

**3614.1.10.3 Additional installation requirements/exterior installations:** Refer to the specific requirements of 527 CMR or 248 CMR as applicable, or in the absence of such jurisdictional guidance such supports and foundations shall prevent excessive vibration, settlement, or

not lead to roof winter ice damming. Materials acceptable to the building official shall be presented to demonstrate that heating system heat loss to the attic space will not result in heat loss to the space sufficient to promote roof ice damming. To reduce heat loss to the attic space, if the attic heating system is insulated or placed in an isolated, insulated space, such approach shall in no way violate manufacturer's listing requirements of the heating equipment nor preclude proper combustion air, ventilation or exhaust of such equipment and/or space.

movement of the equipment. Supports and foundations shall be level and conform to the manufacturer's installation instructions and be frost-protected.

#### **780 CMR 3614.1.11 - Fossil fired furnaces and boilers:**

**3614.1.11.1 General:** All fossil-fired furnaces and boilers shall conform to the requirements of 527 CMR or 248 CMR as applicable. Such furnaces and boilers shall not be installed in a room designed to be used as a storage closet unless allowed by both the manufacturer and by either 527 CMR or 248 CMR as applicable. Furnaces and boilers located in a bedroom or bathroom shall be installed in a sealed enclosure such that combustion air will not be taken from the living space unless such furnaces or boilers are of a direct vent type.

**Exception:** Unless required by 527 CMR or 248 CMR, direct vent furnaces are not required to be installed within an enclosure.

**3614.1.11.1.1 Clearances:** Refer to the specific requirements of 527 CMR or 248 CMR as applicable, or otherwise clearances to combustibles shall comply with applicable requirements of 780 CMR 36 and the

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manufacturer's specific listing/installation requirements.

**3614.1.12 Electric furnaces:** Electric furnaces shall be constructed in accordance with UL 1096. Electric furnaces shall be installed in compliance with 780 CMR 36, their listing, the manufacturer's installation instructions and 527 CMR 12.00.

**780 CMR 3614.2 HEAT PUMP EQUIPMENT**

**3614.2.1 Heating elements:** Heat pump equipment utilizing supplemental electric heating elements shall have such elements constructed in accordance with UL 559 and installed in accordance with 527 CMR 12.00.

**3614.2.1 Foundations and supports:** Supports and foundations for the outdoor unit of a heat pump shall be raised at least three inches (76 mm) above the ground to permit free drainage of defrost water, shall conform to the manufacturer's installation instructions and be frost-protected.

**780 CMR 3614.3 REFRIGERATION COOLING EQUIPMENT**

**3614.3.1 Compliance:** When applicable, refrigeration cooling equipment and its installation shall comply with M.G.L. c. 146, §§ 42 through 45A, 81 and 528 CMR 11.